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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/611,546

07/01/2003

Timothy B. Dean

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07/26/2004

CARDINAL LAW GROUP, LLC
SUITE 2000
1603 ORRINGTON AVENUE
EVANSTON, IL 60201

EXAMINER

KANG, DONGHEE

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,546

Applicant(s)

DEAN ET AL.

Examiner

Donghee Kang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☒ Claim(s) 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07-01-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgment is made of receipt of applicant's Information Disclosure Statement (PTO-1449) filed July 1, 2003.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 17-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re claim 17, the phrase "an integrated circuit, comprising: an activation plate...." is not supported by the disclosure. The integrated circuit includes bond pads, nickel and gold layers.

Claims 18-25 are rejected because each includes the limitations of independent claim 17.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 17-23 & 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Ling et al. (US 2002/0096765).

Re claim 17, Ling et al. teach an integrated circuit, comprising (Figs. 1-2):

A plurality of bond pads (26) comprising a bond-pad metal; a layer of electroless nickel (32) plated on the bond pads; and a layer of gold (36) plated over the layer of electroless nickel. See also paragraph 0021-0025.

Re claim 18, Ling et al. teach the bond-pad metal comprises copper.

Re claim 19, Ling et al. teach the plated layer of gold comprises one of an electroless gold or immersion gold.

Re claim 20, Ling et al. teach the layer of electroless nickel is plated to a thickness of 0.5 microns (paragraph 0021).

Re claim 21, Ling et al. teach the layer of gold is plated to a thickness between 0.05 microns and 1.5 microns (paragraph 0024).

Re claim 22, Ling et al. teach the integrated circuit further comprising a layer of electroless palladium (34) positioned between the layer of electroless nickel and the layer of gold.

Re claim 23, Ling et al. teach the layer of electroless palladium is plated to a thickness between 0.1 to 5 micron which is in the claimed ranges.

Re claim 25, Ling et al. teach the integrated circuit with the plurality of bond pads is contained on a semiconductor wafer.

6. Claims 17 & 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Takase et al. (US 6,028,011).

Re claim 17, Takase et al. teach an integrated circuit, comprising (Figs. 4A-4F):

A plurality of bond pads (32) comprising a bond-pad metal; a layer of electroless nickel (34) plated on the bond pads; and a layer of gold (35) plated over the layer of electroless nickel.

Re claim 24, Takase et al. teach the integrated circuit further comprising a layer of zinc (14, Fig.1D) positioned between the bond pads and the layer of electroless nickel where the bond pad metal comprises aluminum.

Allowable Subject Matter

7. Claims 1-16 are allowed.

The following is an examiner's statement of reasons for allowance:

Prior art reference neither teach nor make it obvious as a whole the claimed limitation of the instant application, as recited in claims 1 & 13, either taken alone or in combination. In particular, Takase and Ling fail to teach positing an activation plate adjacent to at least one integrated circuit, the integrated circuit including a plurality of bond pads comprising a bond-pad metal, and the activation plate comprising the bond-pad metal.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghee Kang whose telephone number is 571-272-1656. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DONGHEE KANG
PRIMARY EXAMINER

Donghee Kang, Ph.D.
Primary Examiner
Art Unit 2811

dhk